In The Claims:

Claims 1-17 were previously cancelled without prejudice or disclaimer of the subject matter therein. Claims 30 - 31 and 33 were previously withdrawn by Applicant without prejudice or disclaimer of the subject matter therein. Claims 32 and 34 have been cancelled without prejudice or disclaimer of the subject matter therein. Claims 18 - 29 are currently pending. Claim 18 has been amended without prejudice or disclaimer of the subject matter thereof.

1-17. (Cancelled)

18. (Currently Amended) A method of utilizing a competitive binding assay for detecting aneuploidy in one or more chromosomes of a subject simultaneously, said method comprising:

(i) producing fluorescently-labeled polynucleotide samples that are representative of the number of each chromosome in said subject;

(ii) further producing equivalent, non-aneuploid fluorescently-labeled polynucleotide standards for each chromosome, wherein the sample and the standard have distinct emission spectra;

(iii) mixing non-equal amounts of said sample and said standard with a limiting amount of binding agents for each chromosome, wherein said binding agents comprise a polynucleotide that is complementary to said sample and said standard for each chromosome immobilized onto microparticles, and said microparticles for each chromosome are distinct in ~~on a characteristic selected from the group consisting of~~ size and fluorescent label intensity;

(iv) wherein the fluorescent label on said microparticles, if present, has a distinct emission spectrum from ~~both the label of~~ said sample and said standard; ~~and~~

(v) wherein the presence of an aneuploidy creates a detectable signal due to non-equal binding of said sample and said standard to said binding agent; and

(vi) detecting aneuploidy by comparing the signal caused by the binding of said sample and said standard to said binding agent, said aneuploidy being determined by an unequal binding.

19. (Original) The method according to claim 18, wherein said subject is a diploid organism.

20. (Original) The method of claim 19, wherein said diploid organism is selected from the group consisting of a mammal and a plant.

21. (Original) The method of claim 20, wherein said mammal is selected from the group consisting of a human, a livestock animal and an embryo.

22. (Original) The method of claim 21, wherein said livestock animal is selected from the group consisting of cattle, sheep and horses.

23. (Original) The method of claim 21, wherein said embryo is generated using *in-vitro* fertilization.

24. (Original) The method of claim 23, wherein said aneuploidy is detected in said embryo prior to implantation of said embryo.

25. (Original) The method according to claim 24, wherein said sample originates from a blastomere.

26. (Original) The method according to claim 18, wherein said sample and said standard are produced from genomic DNA from a source selected from the group consisting of a somatic cell, a reproductive cell and a gamete.

27. (Original) The method of claim 18, wherein said binding agent comprises a nucleic acid immobilized on a microparticle, said nucleic acid having binding specificity for said sample and said standard.

28. (Original) The method according to claim 27, wherein said microparticles are silica microparticles.

29. (Original) The method of claim 28, wherein said silica microparticles are silanized.

30-31. (Withdrawn)

32. (Cancelled)

33. (Withdrawn) The kit of claim 32, wherein said mammal is selected from the group consisting of a human, a livestock animal and an embryo.

34. (Cancelled)